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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,003	09/09/2003	Douglas S. Forrer	PTH-20404/08	2277

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EXAMINER	
SINGH, SUNIL	

ART UNIT	PAPER NUMBER
3673	

DATE MAILED: 06/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/658,003	FORRER, DOUGLAS S.	
	Examiner	Art Unit	
	Sunil Singh	3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-13,15-20 and 22-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-13,15-20 and 22-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 9-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 9-12, 19, "said reflective coating", "bonding primer", "latex primer", "water based primer" all lack clear antecedent basis.

Claim 13, "an inner surface" renders the claim indefinite; since it is unclear what inner surface applicant is referring to.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1,3-8, 13,15-18 rejected under 35 U.S.C. 103(a) as being unpatentable over Heenan '327 in view of Internet article "Acrylic (Polymethyl-Methacrylate)" or Canadian Building Digest (page 5 of 7).

Heenan discloses a reflective pavement marker (see Fig. 1) comprising a shell (12) having at least one side wall having a reflective portion, wherein said shell forms an

interior cavity, said reflective portion having an inner surface partially defining said cavity; a reflective coating (70) covering said inner surface of said reflective portion; and a filler material (14) disposed within the interior cavity of said shell. The shell includes a top wall, side wall and reflective end wall having the reflective portion formed therein integrally. The reflective portion includes a plurality of integrally formed cube-shaped members arranged in a grid pattern (see col. 1 line 20). The reflective coating is a metal material (see col. 5 line 65). Heenan discloses the invention substantially as claimed. However, Heenan does not explicitly state that the polymer has a tensile strength greater than 10,000 psi and flexural modulus greater than 450,000 psi.

Internet article "Acrylic (Polymethyl-Methacrylate)" specifically teaches that polymethyl-methacrylate have tensile strengths between 8000-11000 psi and flexural modulus between 350,000-500,000 psi. Canadian Building digest teaches that poly(methyl methacrylate) typical tensile and flexural modulus values are 10,000 psi and 500,000 psi respectively. It would have been considered obvious to one of ordinary skill in the art to modify Heenan by using a polyacrylate having tensile strength greater than 10,000 psi and flexural modulus greater than 450,000 psi as taught by either Internet article "Acrylic (Polymethyl-Methacrylate)" or Canadian Building digest since it makes sense to use material that could withstand extreme loading.

Optical transmittance greater than 85% is also taught as being a fundamental property of polymethyl methacrylate.

5. Claims 20,22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heenan (US 3332327) in view of Coderre et al. (US 6325515) and either Internet article "Acrylic (Polymethyl-Methacrylate)" or Canadian Building Digest (page 5 of 7).

Heenan discloses a reflective pavement marker (see Fig. 1) comprising a shell (12) having at least one side wall having a reflective portion, wherein said shell forms an interior cavity, said reflective portion having an inner surface partially defining said cavity; a reflective coating (70) covering said inner surface of said reflective portion; and a filler material (14) disposed within the interior cavity of said shell. The shell includes a top wall, side wall and reflective end wall having the reflective portion formed therein integrally. The reflective portion includes a plurality of integrally formed cube-shaped members arranged in a grid pattern (see col. 1 line 20). The reflective coating is a metal material (see col. 5 line 65).

Heenan discloses the invention substantially as claimed. However, Heenan lacks a bonding coating covering at least said reflective coating, wherein the bonding coating is a bonding primer such as an acrylic latex primer or a water based primer. Further, Heenan does not explicitly state that the polymer has a tensile strength greater than 10,000 psi and flexural modulus greater than 450,000 psi.

Coderre et al. teaches a reflective marker having a bonding coating (28) covering at least the reflective coating (32) which covers cube corner reflective means (32), wherein the bonding coating is a bonding primer (see col. 3 line 56+).

Internet article "Acrylic (Polymethyl-Methacrylate)" specifically teaches that polymethyl-methacrylate have tensile strengths between 8000-11000 psi and flexural

modulus between 350,000-500,000 psi. Canadian Building digest teaches that poly(methyl methacrylate) typical tensile and flexural modulus values are 10,000 psi and 500,000 psi respectively.

It would have been considered obvious to one of ordinary skill in the art to modify Heenan to include the bonding coating as taught by Coderre et al. and to use a polyacrylate having tensile strength greater than 10,000 psi and flexural modulus greater than 450,000 psi as taught by either Internet article "Acrylic (Polymethyl-Methacrylate)" or Canadian Building digest so as to cover the reflective coating in order to protect the reflective coating from corrosion thus lengthening the life of the reflective marker and since it makes sense to use material that could withstand extreme loading.

Optical transmittance greater than 85% is also taught as being a fundamental property of polymethyl methacrylate.

Response to Arguments

6. Applicant's declaration filed 4/6/06 has been fully considered but it does not overcome the rejection(s). Applicants' declaration lacks convincing evidence of what parameter(s) were tested and why some reflectors held up versus what failed. Applicant makes a bold assertion that the reflective coating, bonding coating and the fill material are not responsible for the difference(s) in field performance test life exhibited by the various reflectors. Since the declaration does not provide any evidence of what the constant parameters were and what the variable parameters were, it is impossible to

come to the conclusion that it was the particular tensile strength and flexural modulus as called for in the claims caused the reflector to having a longer than 6 months life.

7. Applicants' declaration lacks convincing evidence of what parameter(s) were tested and why some reflectors held up versus what failed. For example, is it the particular traffic (bicycle, tractor trailers etc.) that runs over the reflectors that caused one reflector to perform better than another? Are all the reflectors tested under the same temperature ? (meaning during summer months is Florida or in the winter months in Maine). For example, if reflectors were tested in Maine, maybe the reflectors can be damaged by harsh chemicals used in the winter months.

8. Applicant argues that a prima facie case of obviousness can be overcome when "the range is critical", merely by showing that the claimed range achieves unexpected results relative to the prior art range. Applicant failed to provide comparative data between prior art products and claimed invention, in particular, there is no comparison between the tensile strength and flexural modulus of the prior art products in comparison with the claimed invention. Applicant provided a list stating certain products having types Class A, B, C or E. However, it is unclear if the only differences between these products and applicant's invention are the tensile strength and flexural modulus; for example, if the reflectors were tested under different temperatures, then they can behave differently.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sunil Singh whose telephone number is (571) 272-7051. The examiner can normally be reached on Monday through Friday 10:30 AM - 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Engle Patricia can be reached on (571) 272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sunil Singh
Primary Examiner
Art Unit 3673

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6/12/06